



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/801,091

03/15/2004

Michael A. Malcolm

217.1026.01

9493

78037 7590 07/09/2008

KALEIDESCAPE, INC.

440 POTRERO AVE.

SUNNYVALE, CA 94085-4117

EXAMINER

DANG, HUNG Q

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

07/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/801,091	<b>Applicant(s)</b> MALCOLM ET AL.	
	<b>Examiner</b> HUNG Q. DANG	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14-35, 37-41, 45-53, 57-61, 63-65, 67-72, 74, 75 and 103-131 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14-35, 37-41, 45-53, 57-61, 63-65, 67-72, 74, 75 and 103-131 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of claims 1-8,14-35,37-41,45-53,57-61,63-65,67-72,74,75 and 103-135 in the reply filed on 03/28/2008 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 3, 5-6, 19-34, 37-39, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitani et al. (US 2001/0019612).**

Regarding claim 1, Kitani et al. disclose a media reader having a read element capable of being communicatively coupled to a DVD compliant with the CSS specifications and containing digital content ([0095]; [0096]; [0111]); a storage element including an input disposed for receiving the digital content from the media reader ([0095]; [0097]), the storage element being capable of non-evanescently storing the digital content using a storage technique substantially different from the DVD ([0095]; [0097]); and a playback device coupled to the storage element ([0097]; [0098]), the playback device having an input disposed for receiving the digital content and an output

configured to output a media stream derived from the digital content ([0098]; Fig. 7), the digital content at the input scrambled in accordance with a content scramble system (CSS) ([0097]; [0098]).

Regarding claim 3, Kitani et al. also disclose the playback device includes a CSS Descrambler ([0097]; [0098]).

Regarding claim 5, Kitani et al. also disclose the playback device does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key; instead, authentication is performed at a remote server ([0095]-[0098]).

Regarding claim 6, Kitani et al. also disclose the media reader does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair ([0095]-[0098]).

Regarding claim 19, Kitani et al. also disclose a plurality of playback devices coupled to the storage element, each of said plurality of playback devices having an input disposed for receiving the digital content and an output configured to output a media stream derived from the digital content, wherein each of said plurality of playback devices is operable to output a different media stream (Fig.12; [0019]).

Regarding claim 20, Kitani et al. also disclose the output has a distinct controlling CPU from the storage element and has at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element (Fig. 12; [0095]-[0098]).

Regarding claim 21, Kitani et al. also disclose the media content being maintained in a protected form between the DVD and the media reader, between the media reader and the storage element, when stored on the storage element, and between the storage element and the playback device ([0095]-[0098]).

Regarding claim 22, Kitani et al. also disclose at least two elements in the set: the storage element, the playback device, the media reader have, pairwise, at least two of the properties in the set: being logically remote, being physically remote, having more than one controlling CPUs (Fig. 12; Fig. 7; [0095]-[0098]).

Regarding claim 23, Kitani et al. also disclose at least two elements in the set: the storage element, the playback device, the media reader are pairwise physically remote, and have separate controlling CPUs (Fig. 7; Fig. 12; [0095]-[0098]).

Regarding claim 24, Kitani et al. also disclose the media reader includes at least one DVD reader ([0095]).

Regarding claim 25, Kitani et al. also disclose the media reader includes a DVD drive ([0095]).

Regarding claim 26, Kitani et al. also disclose the storage element includes a magnetic disk drive ([0097]).

Regarding claim 27, Kitani et al. also disclose the digital content is maintained in a protected form for at least two cases in the set: between the DVD and the media reader; between the media reader and the storage element; when stored on the storage element; between the storage element and the playback device ([0095]-[0098]).

Regarding claim 28, Kitani et al. also disclose the media content being maintained in a protected form for at least three cases in the set: between the DVD and the media reader, between the media reader and the storage element, when stored on the storage element, and between the storage element and the playback device ([0095]-[0098]).

Regarding claim 29, Kitani et al. disclose a protected form includes at least one of: an encrypted form of the digital content, an encrypted form of the digital content scrambled in accordance with CSS, a form of the digital content including digital rights information, a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information ([0097]).

Regarding claim 30, Kitani et al. also disclose the protected form has at least one of the properties in the set: resistant to attempts to defeat copy protection afforded by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools ([0097]).

Regarding claim 31, Kitani et al. also disclose the protected form has at least two of the properties in the set: resistant to attempts to defeat copy protection afforded by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools ([0097]).

Regarding claim 32, Kitani et al. also disclose the protected form is resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools ([0097]).

Regarding claim 34, Kitani et al. also disclose the apparatus complies with the CSS specifications ([0095]-[0098]; [0111]).

Regarding claim 37, Kitani et al. also disclose the storage element has capacity to concurrently store digital content from plural DVDs ([0095]-[0097]).

Regarding claim 38, Kitani et al. also disclose operation of the system allows for a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived therefrom ([0095]-[0098]).

Regarding claim 39, Kitani et al. also disclose the digital content can be transported a substantial distance after being read by the media reader and before being output by the playback device (Fig. 12).

Regarding claim 104, Kitani et al. also disclose a plurality of outputs configured to simultaneously output said media stream (Fig.12).

Regarding claim 105, Kitani et al. also disclose second output configured to output a second media stream (Fig.12).

Regarding claim 112, Kitani et al. disclose a media playback device ([0095]), comprising: a network connection for receiving digital content from a remote media storage device (Fig. 12), said digital content scrambled in accordance with a content scramble system (CSS) ([0095]-[0098]; [0111]); a CSS descrambler, coupled to said network connection, for processing said digital content into a media stream for presentation ([0095]-[0098]); and an output, for outputting said media stream to a presentation device ([0098]).

Regarding claim 118, Kitani et al. also disclose a second output for outputting said media stream to a second presentation device (Fig. 12; [0098]).

Regarding claim 119, Kitani et al. also disclose said network connection is also for receiving additional digital content from said remote media storage device (Fig. 12; [0095]-[0098]), said CSS Descrambler is also for processing said additional digital content into a second media stream ([0095]-[0098]), and said media playback device further comprises: a second output for outputting said second media stream to a second presentation device wherein said second media stream comprises a signal in compliance with a standard and for protected signals specified by the CSS specifications ([0095]-[0098]; Fig. 12).

Regarding claim 120, Kitani et al. disclose a media reader having a read element capable of being coupled to a DVD complying with the CSS specifications and containing digital content ([0095]; [0111]); and a storage element having an input operable for receiving the digital content from the media reader ([0097]), wherein the storage element is operable to non-evanescently store the digital content in a manner substantially different from the DVD, such that the stored digital content is protected by a content scrambling algorithm ([0097]).

Claim 122 is rejected for the same reason as discussed in claim 25 above.

Regarding claim 124, Kitani et al. also disclose said storage element comprises a magnetic disk drive ([0097]; Fig. 7).



Regarding claim 125, Kitani et al. also disclose said storage element comprises sufficient storage to concurrently store digital content corresponding to a plurality of DVDs ([0095]; [0097]).

Claim 126 is rejected for the same reason as discussed in claim 120 above.

Regarding claim 128, Kitani et al. also disclose a system, comprising: a storage element for non-evanescently storing digital content derived from a DVD ([0095]), stored using a technique substantially different from the DVD ([0097]), and protected by a content scramble system (CSS) ([0111]; [0097]), the storage element having an output for sending the digital content (Fig. 7; [0097]; [0098]); and a playback device for producing a media stream derived from the digital content, and having an input for receiving the digital content from the storage element ([0098]).

Claim 133 is rejected for the same reason as discussed in claim 38 above.

Regarding claim 134, Kitani et al. disclose a method of playing back stored digital content ([0095]), comprising: accessing the stored digital content, the stored digital content having been derived from a DVD compliant with the CSS specifications ([0095]; [0111]), stored using a technique substantially different from the DVD ([0097]); sending the stored digital content to a playback device ([0097]; [0098]); and producing a media stream derived from the stored digital content for playback ([0098]).

Claim 135 is rejected for the same reason as discussed in claim 38 above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 45-48, 50-51, 59-61, 64, 69-72, and 74 are rejected under 35 U.S.C.**

**103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above .**

Regarding claim 45, Kitani et al. disclose a method of playing a DVD ([0095]), including steps of: reading the DVD including digital content representing at least one media stream scrambled in accordance with a content scramble system (CSS) ([0095]; [0096]; [0111]); non-evanescently storing the digital content in protected form using a storage mechanism different from the DVD ([0097]); and playing back the digital content ([0098]).

However, Kitani et al. do not disclose playing back after conversion into analog, digital, or analog and digital audiovisual content for presentation.

Playing back after conversion into analog, digital, or analog and digital audiovisual content for presentation is very well known in the art. Thus, Official Notice is taken.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the step of playing back after conversion into analog, digital, or analog and digital audiovisual content for presentation into the method disclosed by Kitani et al. in order to make the method compatible with existing analog, digital, or analog and digital devices.

Regarding claim 46, Kitani et al. also disclose additional protection is used on the DVD, by the storage mechanism, or both ([0097]).

Regarding claim 47, Kitani et al. also disclose additional protection used on the DVD is different from the additional protection used by the storage mechanism ([0097]).

Regarding claim 48, Kitani et al. also disclose the protected form is scrambled in accordance with CSS ([0097]).

Claim 50 is rejected for the same reason as discussed in claim 5 above.

Claim 51 is rejected for the same reason as discussed in claim 6 above.

Claim 59 is rejected for the same reason as discussed in claim 29 above.

Regarding claim 60, Kitani et al. also disclose the protected form includes an encrypted form of the digital content scrambled in accordance with CSS ([0097]); and an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back ([0097]).

Regarding claim 61, Kitani et al. also disclose the step of reading occurs in a media reader having at least one DVD drive ([0095]).

Regarding claim 64, Kitani et al. also disclose the method complies with the CSS license and the CSS procedural specification ([0095]-[0098]; [0111]).

Regarding claim 69, Kitani et al. also disclose at least two of the following steps occur at logically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back (Fig. 12; [0095]-[0098]).

Regarding claim 70, Kitani et al. also disclose at least two of the following steps occur at physically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back (Fig. 12; [0095]-[0098]).

Regarding claim 71, Kitani et al. also disclose the step of playing back occurs at a plurality of playback devices, at least two of those playback devices being pairwise substantially physically remote from each other ([0098]; Fig. 12).

Claim 72 is rejected for the same reason as discussed in claim 38 above.

Claim 74 is rejected for the same reason as discussed in claim 39 above.

**Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above and further in view of Ciacelli et al. (US 6,236,727).**

Regarding claim 2, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not disclose the output includes a signal following standards for protected signals specified by the CSS specification.

Ciacelli et al. disclose the output includes a signal following standards for protected signals specified by the CSS specification (column 1, lines 52-64).

One of ordinary skill in the art would have been motivated to incorporate the output including a signal following standards for protected signals specified by the CSS specification as disclosed by Ciacelli et al. into the apparatus disclosed by Kitani et al. to be compatible with an existing standard.

**Claims 4, 7-8, 33, 35, 40-41, 49, 52-53, 63, 65, 67-68, 75, 109, 121, 123, and 127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Wehrenberg (US 6,523,113).**

Regarding claim 4, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not disclose the playback device implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and utilizes the Master Key pair.

Wehrenberg discloses a playback device implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and utilizes the Master Key pair (column 1, lines 35-67).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate implementing the functionalities in the playback device disclosed by Wehrenberg into the apparatus disclosed by Kitani et al. as a choice of implementation to perform authentication as required by CSS specifications.

Regarding claim 7, Wehrenberg also discloses the media reader incorporates and implements the functionality of the CSS Authentication Algorithm, and incorporates the Authentication Key (column 1, lines 35-67).

Regarding claim 8, Wehrenberg also disclose the media reader comprises an Authenticator for CSS Decryption Module (column 1, lines 35-67) and Kitani et al. also disclose the playback device comprises a CSS Descrambler ([0095]-[0098]).

Regarding claim 33, Wehrenberg also disclose the media reader includes a first authenticator (column 1, lines 35-60).

Regarding claim 35, Wehrenberg also discloses the system is capable of having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data (column 1, lines 35-60).

Regarding claim 40, Wehrenberg also discloses a system internal link operable to communicate compressed digital data representing media streams, wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information (column 1, lines 35-60).

Regarding claim 41, Wehrenberg et al. also disclose including coupling via the system internal link, at least two of the set, the media reader, the storage element, the playback device (column 1, lines 35-60).

Claim 49 is rejected for the same reason as discussed in claim 4 above.

Claim 52 is rejected for the same reason as discussed in claim 7 above.

Claim 53 is rejected for the same reason as discussed in claim 8 above.

Regarding claim 63, Wehrenberg also discloses the media reader includes a first authenticator (column 1, lines 35-60).

Claim 65 is rejected for the same reason as discussed in claim 35 above.

Regarding claim 67, Wehrenberg also discloses extracting keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from

DVD, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification (column 1, lines 35-67).

Regarding claim 68, Wehrenberg also discloses said reading comprises having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data, and said playing back comprises using CSS descrambling procedures (column 1, lines 35-67).

Claim 75 is rejected for the same reason as discussed in claim 40 above.

Regarding claim 109, Wehrenberg also discloses the apparatus is configured to extract keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from DVD, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification (column 1, lines 35-67).

Regarding claim 121, see the teachings of Kitani et al. as discussed in claim 120 above. However, Kitani et al. do not disclose said media reader incorporates and implements functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key.

Wehrenberg discloses a media reader incorporates and implements functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key (column 1, lines 35-60).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Wehrenberg as described above into the

system disclosed by Kitani et al. to protect the digital content according to an existing standard.

Claim 123 is rejected for the same reason as discussed in claim 68 above.

Claim 127 is rejected for the same reason as discussed in claim 68 above.

**Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Akiba et al. (US Patent 6,353,540) and Ichinoi et al. (US 2001/0014946).**

Regarding claim 14, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not disclose the main printed circuit board of the playback device has at least five layers, and signals containing unscrambled compressed audiovisual data or key material used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

Akiba et al. disclose a printed circuit board that has at least five layers (column 9, lines 55-58; Fig. 41).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the printed circuit board disclosed by Akiba et al. into the apparatus disclosed by Kitani et al. in order to suppress noise, to reduce the board's space and cost of the apparatus (Akiba et al., column 10, lines 27-38).

However, the proposed combination of Kitani et al. and Akiba et al. does not disclose signals containing unscrambled compressed audiovisual data or key material



used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

Ichinoi et al. disclose signals containing sensitive unscrambled data run wherever feasible on traces in interior layers of the board ([0061]-[0063]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate running sensitive unscrambled data wherever feasible on traces in interior layers of the board as disclosed by Ichinoi et al. into the apparatus disclosed by Kitani et al. and Akiba et al. to increase the protection of any unscrambled data that requires protection such as audiovisual data or key material used in unscrambling digital content.

Claim 15 is rejected for the same reason as discussed in claim 14 above in consideration of Akiba et al. further disclosing an integrated circuit included an electronic apparatus, wherein said circuit is area-array packaged (Fig. 25) and surface-mounted (Fig. 26).

**Claims 16-17, 57, 113, and 129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Chan et al. (US 2004/0001704).**

Regarding claim 16, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose a user can only control the apparatus through either an on-screen display and associated touchpad and IR remote control protocols, or through a Web user interface.

Chan et al. disclose a user can only control a multi-media system an on-screen display and associated touchpad and IR remote control protocols ([0019]; Fig. 1).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the controlling method disclosed by Chan et al. into the apparatus disclosed by Hirai et al. to enhance the user interface of the apparatus.

Regarding claim 17, Chan et al. also disclose an output media stream analog audio data, and whereby said audio data output from a playback device is either in a compressed format or else in a linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits ([0026]).

Claim 57 is rejected for the same reason as discussed in claim 17 above.

Claim 113 is rejected for the same reason as discussed in claim 17 above.

Claim 129 is rejected for the same reason as discussed in claim 17 above.

**Claims 18, 58, 114, and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Chan et al. (US 2004/0001704) and Hughes, Jr. et al. (US 2004/0033061).**

Regarding claim 18, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not disclose an output media stream comprises analog video data, and whereby said analog video data output from the playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Chan et al. disclose an output media stream comprises analog video data ([0024]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the analog video data disclosed by Chan et al. into the apparatus disclosed by Kitani et al. in order to make the apparatus compatible with analog devices.

However, the proposed combination of Kitani et al. and Chan et al. does not disclose said analog video data output from the playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Hughes, Jr. et al. disclose video data output from a playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution ([003]-[0006]; [0008]; [0022]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the video data output disclosed by Hughes, Jr. et al. into the apparatus disclosed by Kitani et al. and Chan et al. in order to make the apparatus compatible with both high definition and standard definition; thus enhancing user interface of the apparatus.

Claim 58 is rejected for the same reason as discussed in claim 18 above.

Claim 114 is rejected for the same reason as discussed in claim 18 above.

Claim 130 is rejected for the same reason as discussed in claim 18 above.

**Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Shillo (US 2003/0110263).**

Regarding claim 103, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not teach the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.

Shillo discloses the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein ([0054]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the storage element including an array of magnetic disk drives disclosed by Shillo into the apparatus disclosed by Kitani et al. for backup reason. The incorporated feature would make the apparatus more reliable.

**Claims 106-108, 110-111, 115-117, and 131-132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitani et al. (US 2001/0019612) as applied to claims 1, 3, 5-6, 19-34, 37-39, 45-48, 50-51, 59-61, 64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Porter et al. (US 2003/0226029).**

Regarding claim 106, see the teachings of Kitani et al. as discussed in claim 1 above. However, Kitani et al. do not disclose the media stream comprises analog audiovisual content in a protected form including analog copy protection.

Porter et al. disclose a media stream comprises analog audiovisual content in a protected form including analog copy protection ([0018]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the media stream comprising analog audiovisual content in a protected form including analog copy protection disclosed by Porter et al. into the apparatus disclosed by Kitani et al. to prevent the media stream from being illegally copied or reproduced.

Regarding claim 107, Porter et al. also disclose the analog copy protection comprises Macrovision copy protection ([0018]).

Regarding claim 108, Porter et al. also disclose the media stream is protected with a technique substantially similar to high-bandwidth digital content protection (HDCP) ([0018]).

Regarding claim 110, see the teachings of Kitani et al. as discussed in claim 45 above. However, Kitani et al. does not disclose the conversion comprises adding Macrovision copy protection.

Porter et al. disclose a conversion comprises adding Macrovision copy protection ([0018]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the conversion disclosed by Porter et al. into the method

Art Unit: 2621

disclosed by Kitani et al. to prevent the media stream from being illegally copied or reproduced.

Regarding claim 111, Porter et al. also disclose said conversion comprises applying a technique substantially similar to high-bandwidth digital content protection (HDCP) ([0018]).

Claim 115 is rejected for the same reason as discussed in claim 106 above.

Claim 116 is rejected for the same reason as discussed in claim 107 above.

Claim 117 is rejected for the same reason as discussed in claim 108 above.

Claim 131 is rejected for the same reason as discussed in claim 106 above.

Claim 132 is rejected for the same reason as discussed in claim 111 above.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 3, 5, 6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirai et al. (US 2004/0230532).**

Regarding claim 1, Hirai et al. disclose a media reader having a read element capable of being communicatively coupled to a DVD compliant with the CSS specifications and containing digital content ([0043]; [0045]); a storage element including an input disposed for receiving the digital content from the media reader ([0086]), the storage element being capable of non-evanescently storing the digital content using a storage technique substantially different from the DVD ([0086]); and a playback device coupled to the storage element ([0047]; [Fig. 2]), the playback device having an input disposed for receiving the digital content ([0044]; [0045]) and an output configured to output a media stream derived from the digital content ([0046]; [0160]; [0161]), the digital content at the input scrambled in accordance with a content scramble system (CSS) ([0044]; [0045]).

Regarding claim 3, Hirai et al. also disclose the playback device includes a CSS Descrambler ([0044]; [0045]; Fig. 2).

Regarding claim 5, Hirai et al. also disclose the playback device does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key; instead, authentication is performed at a remote server ([0064]; [0071]).

Regarding claim 6, Hirai et al. also disclose the media reader does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair (Fig. 2).

Regarding claim 19, Hirai et al. also disclose a plurality of playback devices coupled to the storage element, each of said plurality of playback devices having an input disposed for receiving the digital content and an output configured to output a media stream derived from the digital content, wherein each of said plurality of playback devices is operable to output a different media stream (Fig. 1; [0072]; [0160]; [0161]).

Regarding claim 20, Hirai et al. also disclose the output has a distinct controlling CPU from the storage element and has at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element (Fig. 2).

Regarding claim 24, Hirai et al. also disclose the media reader includes at least one DVD reader (Fig. 2; [0043]; [0044]).

Regarding claim 25, Hirai et al. also disclose the media reader includes a DVD drive (Fig. 2; [0043]; [0044]).

Regarding claim 26, Hirai et al. also disclose the storage element includes a magnetic disk drive ([0086]).

Regarding claim 27, Hirai et al. also disclose the digital content is maintained in a protected form for at least two cases in the set: between the DVD and the media reader; between the media reader and the storage element; when stored on the storage element; between the storage element and the playback device ([0043]; [0044]; [0045]; Fig. 2).

Regarding claim 28, Hirai et al. also disclose the media content being maintained in a protected form for at least three cases in the set: between the DVD and the media



reader, between the media reader and the storage element, when stored on the storage element, and between the storage element and the playback device ([0043]; [0044]; [0045]; Fig. 2; [0050]).

Regarding claim 33, Hirai et al. also disclose the media reader includes a first authenticator ([0057]; [0060]).

Regarding claim 34, Hirai et al. also disclose the apparatus complies with the CSS specifications ([0044]).

Regarding claim 37, Hirai et al. also disclose the storage element has capacity to concurrently store digital content from plural DVDs ([0072]).

Regarding claim 38, Hirai et al. also disclose operation of the system allows for a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived therefrom ([0086]; [0090]; [0156]-[0162]).

Regarding claim 39, Hirai et al. also disclose the digital content can be transported a substantial distance after being read by the media reader and before being output by the playback device (Fig. 2).

Regarding claim 104, Hirai et al. also disclose a plurality of outputs configured to simultaneously output said media stream ([0160]; [0161]; Fig. 1).

Regarding claim 105, Hirai et al. also disclose second output configured to output a second media stream ([0160]; [0161]; Fig.1).

Regarding claim 112, Hirai et al. disclose a media playback device (Fig. 2; [0047]), comprising: a network connection for receiving digital content from a remote

media storage device (Fig. 1), said digital content scrambled in accordance with a content scramble system (CSS) ([0045]; [0046]); a CSS descrambler, coupled to said network connection, for processing said digital content into a media stream for presentation ("CSS Code Decompressing Section 38" in Fig. 2); and an output, for outputting said media stream to a presentation device ("Output Section 40" in Fig. 2).

Regarding claim 118, Hirai et al. also disclose a second output for outputting said media stream to a second presentation device (Fig. 2).

Regarding claim 119, Hirai et al. also disclose said network connection is also for receiving additional digital content from said remote media storage device (Fig. 1), said CSS Descrambler is also for processing said additional digital content into a second media stream ("CSS Code Decompressing Section 38" in Fig. 2), and said media playback device further comprises: a second output for outputting said second media stream to a second presentation device wherein said second media stream comprises a signal in compliance with a standard and for protected signals specified by the CSS specifications (Fig. 2; [0045]; [0046]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 4, 7-8, 35, 40-41, 68, and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5,**

**6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, 118-119 above, and further in view of Wehrenberg (US 6,523,113).**

Regarding claim 4, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose the playback device implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and utilizes the Master Key pair.

Wehrenberg discloses a playback device implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and utilizes the Master Key pair (column 1, lines 35-67).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate implementing the functionalities in the playback device disclosed by Wehrenberg as a choice of implementation to perform authentication as required by CSS specifications.

Regarding claim 7, Wehrenberg also discloses the media reader incorporates and implements the functionality of the CSS Authentication Algorithm, and incorporates the Authentication Key (column 1, lines 35-67).

Regarding claim 8, Wehrenberg also disclose the media reader comprises an Authenticator for CSS Decryption Module (column 1, lines 35-67) and Hirai et al. also disclose the playback device comprises a CSS Descrambler ([0044]; [0045]; Fig. 2).

Regarding claim 35, Wehrenberg also discloses the system is capable of having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data (column 1, lines 35-60).

Regarding claim 40, Wehrenberg also discloses a system internal link operable to communicate compressed digital data representing media streams, wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information (column 1, lines 35-60).

Regarding claim 41, Wehrenberg et al. also disclose including coupling via the system internal link, at least two of the set, the media reader, the storage element, the playback device (column 1, lines 35-60).

Regarding claim 68, Wehrenberg also discloses said reading comprises having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data, and said playing back comprises using CSS descrambling procedures (column 1, lines 35-67).

Regarding claim 109, Wehrenberg also discloses the apparatus is configured to extract keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from DVD, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification (column 1, lines 35-67).

**Claims 2, 21-23, 28-32, 38-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 120, 122, 124-126, 128, and 133-135 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-**

**20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Ciacelli et al. (US 6,236,727).**

Regarding claim 2, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose the output includes a signal following standards for protected signals specified by the CSS specification.

Ciacelli et al. disclose the output includes a signal following standards for protected signals specified by the CSS specification (column 1, lines 52-64).

One of ordinary skill in the art would have been motivated to incorporate the output including a signal following standards for protected signals specified by the CSS specification as disclosed by Ciacelli et al. into the apparatus disclosed by Hirai et al. to be compatible with an existing standard.

Regarding claim 21, Hirai et al. also disclose the media content being maintained in a protected form between the DVD and the media reader, between the media reader and the storage element ([0043]; [0044]; [0045]; Fig. 2; [0050])., However, Hirai et al. do not disclose the media content being maintained in a protected form when stored on the storage element, and between the storage element and the playback device.

Ciacelli et al. disclose media contents being maintained in a protected form when stored on the storage element, and between the storage element and the playback device (column 6, lines 61 – column 7, line 2).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the protected forms of the media content disclosed by Ciacelli et al. into the apparatus disclosed by Hirai et al. to improve conventional DVD

processing of the encrypted, encoded data stream (Ciacelli et al., column 1, lines 65-67).

Regarding claim 22, Hirai et al. also disclose at least two elements in the set: the storage element, the playback device, the media reader have, pairwise, at least two of the properties in the set: being logically remote, being physically remote, having more than one controlling CPUs (Fig. 1; Fig. 2).

Regarding claim 23, Hirai et al. also disclose at least two elements in the set: the storage element, the playback device, the media reader are pairwise physically remote, and have separate controlling CPUs (Fig. 1; Fig. 2).

Claim 28 is rejected for the same reason as discussed in claim 21 above.

Regarding claim 29, Ciacelli et al. disclose a protected form includes at least one of: an encrypted form of the digital content; an encrypted form of the digital content scrambled in accordance with CSS; a form of the digital content including digital rights information; a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information (column 6, line 61 – column 7, line 2).

Regarding claim 30, Ciacelli et al. also disclose the protected form has at least one of the properties in the set: resistant to attempts to defeat copy protection afforded by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools (column 6, line 61 – column 7, line 2).

Regarding claim 31, Ciacelli et al. also disclose the protected form has at least two of the properties in the set: resistant to attempts to defeat copy protection afforded

by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools (column 6, lines 61 – column 7, line 2).

Regarding claim 32, Ciacelli et al. also disclose the protected form is resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools (column 6, line 61 – column 7, line 2).

Regarding claim 38, Hirai et al. also disclose operation of the system allows for a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived therefrom ([0086]; [0090]; [0156]-[0162])

Regarding claim 39, Hirai et al. also disclose the digital content can be transported a substantial distance after being read by the media reader and before being output by the playback device (Fig. 2).

Claim 45 is rejected for the same reason as discussed in claims 1 and 21 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose playing back after conversion into analog, digital, or analog and digital audiovisual content for presentation.

Playing back after conversion into analog, digital, or analog and digital audiovisual content for presentation is very well known in the art. Thus, Official Notice is taken.

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the step of playing back after conversion into analog,

Art Unit: 2621

digital, or analog and digital audiovisual content for presentation into the method disclosed by Hirai et al. and Ciacelli et al. in order to make the method compatible with existing analog, digital, or analog and digital devices.

Regarding claim 46, Ciacelli et al. also disclose additional protection is used on the DVD, by the storage mechanism, or both (column 6, line 61 - column 7, line 2).

Regarding claim 47, Ciacelli et al. also disclose additional protection used on the DVD is different from the additional protection used by the storage mechanism (column 6, line 61 - column 7, line 2).

Regarding claim 48, Hirai et al. also disclose the protected form is scrambled in accordance with CSS ([0045]).

Claim 50 is rejected for the same reason as discussed in claim 5 above.

Claim 51 is rejected for the same reason as discussed in claim 6 above.

Claim 59 is rejected for the same reason as discussed in claim 29 above.

Regarding claim 61, Hirai et al. also disclose the step of reading occurs in a media reader having at least one DVD drive (Fig. 2; [0043]; [0044]).

Claim 63 is rejected for the same reason as discussed in claim 33 above.

Regarding claim 64, Hirai et al. also disclose the method complies with the CSS license and the CSS procedural specification ([0044]).

Regarding claim 69, Hirai et al. also disclose at least two of the following steps occur at logically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back (Fig. 2).



Regarding claim 70, Hirai et al. also disclose at least two of the following steps occur at physically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back (Fig. 1; Fig. 2).

Regarding claim 71, Hirai et al. also disclose the step of playing back occurs at a plurality of playback devices, at least two of those playback devices being pairwise substantially physically remote from each other (Fig. 1).

Claim 72 is rejected for the same reason as discussed in claim 38 above.

Claim 74 is rejected for the same reason as discussed in claim 39 above.

Regarding claim 120, Hirai et al. disclose a media reader having a read element capable of being coupled to a DVD complying with the CSS specifications and containing digital content ([0043]; [0045]); and a storage element having an input operable for receiving the digital content from the media reader ("Hard Disk 34" of Fig. 2; [0086]), wherein the storage element is operable to non-evanescently store the digital content in a manner substantially different from the DVD ([0086]).

However, Hirai et al. do not disclose the stored digital content is protected by a content scrambling algorithm.

Ciacelli et al. disclose the stored digital content is protected by a content scrambling algorithm (column 6, lines 61 – column 7, line 2).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the protected forms of the media content disclosed by Ciacelli et al. into the apparatus disclosed by Hirai et al. to improve conventional DVD

processing of the encrypted, encoded data stream (Ciacelli et al., column 1, lines 65-67).

Claim 122 is rejected for the same reason as discussed in claim 25 above.

Regarding claim 124, Hirai et al. also disclose said storage element comprises a magnetic disk drive ("Hard Disk 34" in Fig. 2).

Regarding claim 125, Hirai et al. also disclose said storage element comprises sufficient storage to concurrently store digital content corresponding to a plurality of DVDs (Fig. 1).

Claim 126 is rejected for the same reason as discussed in claim 120 above.

Regarding claim 128, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose the stored digital content is protected by a content scramble system.

Ciacelli et al. disclose the stored digital content is protected by a content scrambling algorithm (column 6, lines 61 – column 7, line 2).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the protected forms of the media content disclosed by Ciacelli et al. into the system disclosed by Hirai et al. to improve conventional DVD processing of the encrypted, encoded data stream (Ciacelli et al., column 1, lines 65-67).

Claim 133 is rejected for the same reason as discussed in claim 38 above.

Regarding claim 134, Hirai et al. disclose a method of playing back stored digital content(), comprising: accessing the stored digital content, the stored digital content

having been derived from a DVD compliant with the CSS specifications, stored using a technique substantially different from the DVD ([0086]); sending the stored digital content to a playback device ([0160]; [0161]); and producing a media stream derived from the stored digital content for playback ([0160]; [0161]).

However, Hirai et al. do not disclose a stored digital contents protected by a content scramble system (CSS).

Ciacelli et al. disclose a stored digital contents protected by a content scramble system (column 6, lines 61 – column 7, line 2).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the protected forms of the media content disclosed by Ciacelli et al. into the apparatus disclosed by Hirai et al. to improve conventional DVD processing of the encrypted, encoded data stream (Ciacelli et al., column 1, lines 65-67).

Claim 135 is rejected for the same reason as discussed in claim 38 above.

**Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Akiba et al. (US Patent 6,353,540) and Ichinoi et al. (US 2001/0014946).**

Regarding claim 14, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose the main printed circuit board of the playback device has at least five layers, and signals containing unscrambled

compressed audiovisual data or key material used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

Akiba et al. disclose a printed circuit board that has at least five layers (column 9, lines 55-58; Fig. 41).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the printed circuit board disclosed by Akiba et al. into the apparatus disclosed by Hirai et al. in order to suppress noise, to reduce the board's space and cost of the apparatus (Akiba et al., column 10, lines 27-38).

However, the proposed combination of Hirai et al. and Akiba et al. does not disclose signals containing unscrambled compressed audiovisual data or key material used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

Ichinoi et al. disclose signals containing sensitive unscrambled data run wherever feasible on traces in interior layers of the board ([0061]-[0063]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate running sensitive unscrambled data wherever feasible on traces in interior layers of the board as disclosed by Ichinoi et al. into the apparatus disclosed by Hirai et al. and Akiba et al. to increase the protection of any unscrambled data that requires protection such as audiovisual data or key material used in unscrambling digital content.

Claim 15 is rejected for the same reason as discussed in claim 14 above in consideration of Akiba et al. further disclosing an integrated circuit included an

electronic apparatus, wherein said circuit is area-array packaged (Fig. 25) and surface-mounted (Fig. 26).

**Claims 16-17 and 113 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Chan et al. (US 2004/0001704).**

Regarding claim 16, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose a user can only control the apparatus through either an on-screen display and associated touchpad and IR remote control protocols, or through a Web user interface.

Chan et al. disclose a user can only control a multi-media system an on-screen display and associated touchpad and IR remote control protocols ([0019]; Fig. 1).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the controlling method disclosed by Chan et al. into the apparatus disclosed by Hirai et al. to enhance the user interface of the apparatus.

Regarding claim 17, Chan et al. also disclose an output media stream analog audio data, and whereby said audio data output from a playback device is either in a compressed format or else in a linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits ([0026]).

Claim 113 is rejected for the same reason as discussed in claim 17 above.

**Claims 18 and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-**

**20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Chan et al. (US 2004/0001704) and Hughes, Jr. et al. (US 2004/0033061).**

Regarding claim 18, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose an output media stream comprises analog video data, and whereby said analog video data output from the playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Chan et al. disclose an output media stream comprises analog video data ([0024]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the analog video data disclosed by Chan et al. into the apparatus disclosed by Hirai et al. in order to make the apparatus compatible with analog devices.

However, the proposed combination of Hirai et al. and Chan et al. does not disclose said analog video data output from the playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Hughes, Jr. et al. disclose video data output from a playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution ([003]-[0006]; [0008]; [0022]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the video data output disclosed by Hughes, Jr. et al. into

the apparatus disclosed by Hirai et al. and Chan et al. in order to make the apparatus compatible with both high definition and standard definition; thus enhancing user interface of the apparatus.

Claim 114 is rejected for the same reason as discussed in claim 18 above.

**Claims 40-41, 49, 52-53, 65, 67-68, 75, 121, 123, and 127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) and Ciacelli et al. (US 6,236,727) as applied to claims 1-3, 5, 6, 19-34, 37-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Wehrenberg (US 6,523,113).**

Regarding claim 40, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claims 21 or 32 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose a system internal link operable to communicate compressed digital data representing media streams, wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information.

Wehrenberg discloses a system internal link operable to communicate compressed digital data representing media streams, wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information

representing at least one media stream, digital rights information, digital rights key information (column 1, lines 35-60).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Wehrenberg as described above into the apparatus disclosed by Hirai et al. and Ciacelli et al. to prevent unauthorized access to the keys in order to further protect the digital contents.

Regarding claim 41, Wehrenberg et al. also disclose including coupling via the system internal link, at least two of the set, the media reader, the storage element, the playback device (column 1, lines 35-60).

Claim 49 is rejected for the same reason as discussed in claim 4 above.

Claim 52 is rejected for the same reason as discussed in claim 7 above.

Claim 53 is rejected for the same reason as discussed in claim 8 above.

Claim 65 is rejected for the same reason as discussed in claim 35 above.

Regarding claim 67, Wehrenberg also discloses extracting keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from DVD, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification (column 1, lines 35-67).

Claim 75 is rejected for the same reason as discussed in claim 40 above.

Regarding claim 121, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claim 120 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose said media reader incorporates and implements



functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key.

Wehrenberg discloses a media reader incorporates and implements functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key (column 1, lines 35-60).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Wehrenberg as described above into the system disclosed by Hirai et al. and Ciacelli et al. to protect the digital content according to an existing standard.

Claim 123 is rejected for the same reason as discussed in claim 68 above.

Claim 127 is rejected for the same reason as discussed in claim 68 above.

**Claims 57 and 129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) and Ciacelli et al. (US 6,236,727) as applied to claims 1-3, 5, 6, 19-34, 37-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Chan et al. (US 2004/0001704).**

Regarding claim 57, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claim 48 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose playing back analog audiovisual content comprises outputting audio data in either a compressed format or else in a linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

Chan et al. also disclose playing back analog audiovisual content comprises outputting audio data in either a compressed format or else in a linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits (Fig. 1; [0024]; [0025]; [0026]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the step of playing back analog audiovisual content disclosed by Chan et al. into the method disclosed by Hirai et al. and Ciacelli et al. in order to make the method compatible with existing analog devices.

Claim 129 is rejected for the same reason as discussed in claim 17 above.

**Claims 58 and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) and Ciacelli et al. (US 6,236,727) as applied to claims 1-3, 5, 6, 19-34, 37-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Chan et al. (US 2004/0001704) and Hughes, Jr. et al. (US 2004/0033061).**

Regarding claim 58, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claim 48 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose said playing back analog audiovisual content comprises outputting analog video data which does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Chan et al. disclose playing back analog audiovisual content comprises outputting analog video data ([0024]; [0025]; Fig. 1).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate playing back analog audiovisual content comprises outputting analog video data disclosed by Chan et al. into the apparatus disclosed by Hirai et al. in order to make the apparatus compatible with analog devices.

However, the proposed combination of Hirai et al., Ciacelli et al., and Chan et al. does not disclose said analog video data output from the playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution.

Hughes, Jr. et al. disclose video data output from a playback device does not have higher resolution than standard definition unless the digital content has itself that higher resolution ([003]-[0006]; [0008]; [0022]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the video data output disclosed by Hughes, Jr. et al. into the apparatus disclosed by Hirai et al., Ciacelli et al., and Chan et al. in order to make the apparatus compatible with both high definition and standard definition; thus enhancing user interface of the apparatus.

Claim 130 is rejected for the same reason as discussed in claim 18 above.

**Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) and Ciacelli et al. (US 6,236,727) as applied to claims 1-3, 5, 6, 19-34, 37-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Kitani et al. (US 2001/0019612).**

Regarding claim 60, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claim 45 above. However, the proposed combination of Kitani et al. and Ciacelli et al. does not disclose the protected form includes an encrypted form of the digital content scrambled in accordance with CSS; and an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back.

Kitani et al. disclose the protected form includes an encrypted form of the digital content scrambled in accordance with CSS ([0097]); and an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back ([0097]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Kitani et al. as described above into the method disclosed by Hirai et al. and Ciacelli et al. in order to further protect the digital content using existing encryption standards.

**Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Shillo (US 2003/0110263).**

Regarding claim 103, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not teach the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.

Shillo discloses the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein ([0054]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the storage element including an array of magnetic disk drives disclosed by Shillo into the apparatus disclosed by Hirai et al. for backup reason. The incorporated feature would make the apparatus more reliable.

**Claims 106-108 and 115-117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) as applied to claims 1, 3, 5, 6, 19-20, 24-28, 33-34, 37-39, 104-105, 112, and 118-119 above, and further in view of Porter et al. (US 2003/0226029).**

Regarding claim 106, see the teachings of Hirai et al. as discussed in claim 1 above. However, Hirai et al. do not disclose the media stream comprises analog audiovisual content in a protected form including analog copy protection.

Porter et al. disclose a media stream comprises analog audiovisual content in a protected form including analog copy protection ([0018]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the media stream comprising analog audiovisual content in a protected form including analog copy protection disclosed by Porter et al. into the apparatus disclosed by Hirai et al. to prevent the media stream from being illegally copied or reproduced.

Regarding claim 107, Porter et al. also disclose the analog copy protection comprises Macrovision copy protection ([0018]).

Regarding claim 108, Porter et al. also disclose the media stream is protected with a technique substantially similar to high-bandwidth digital content protection (HDCP) ([0018]).

Claim 115 is rejected for the same reason as discussed in claim 106 above.

Claim 116 is rejected for the same reason as discussed in claim 107 above.

Claim 117 is rejected for the same reason as discussed in claim 108 above.

**Claims 110-111 and 131-132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US 2004/0230532) and Ciacelli et al. (US 6,236,727) as applied to claims 1-3, 5, 6, 19-34, 37-39, 45-48, 50-51, 59, 61, 63-64, 69-72, 74, 104-105, 112, 118-120, 122, 124-126, 128, and 133-135 above, and further in view of Porter et al. (US 2003/0226029).**

Regarding claim 110, see the teachings of Hirai et al. and Ciacelli et al. as discussed in claim 45 above. However, the proposed combination of Hirai et al. and Ciacelli et al. does not disclose the conversion comprises adding Macrovision copy protection.

Porter et al. disclose a conversion comprises adding Macrovision copy protection ([0018]).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the conversion disclosed by Porter et al. into the method

Art Unit: 2621

disclosed by Hirai et al. and Ciacelli et al. to prevent the media stream from being illegally copied or reproduced.

Regarding claim 111, Porter et al. also disclose said conversion comprises applying a technique substantially similar to high-bandwidth digital content protection (HDCP) ([0018]).

Claim 131 is rejected for the same reason as discussed in claim 106 above.

Claim 132 is rejected for the same reason as discussed in claim 111 above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. DANG whose telephone number is (571)270-1116. The examiner can normally be reached on M-Th:7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/  
Examiner, Art Unit 2621

/Thai Tran/  
Supervisory Patent Examiner, Art Unit 2621